(MT)

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MPsrch_pp protein - protein database search, using Smith-Waterman algorithm

Run on: Sat May 13 $08:27:01\ 2000$; MasPar time 19.30 Seconds $644.282\ \text{Million}$ cell updates/sec

Tabular output not generated.

Description: Perfect Score: Sequence: >US-09-331-631-7 (1-525) from US09331631.pep (1 of 3) 3808 1 MVISKSPFIVLIFSLLLSFA.....FLNHKQNTNVIKFTVKASAY 525

Searched: PAM 150 Gap 11 188963 seqs, 23686106 residues

Scoring table:

Post-processing: Minimum Match 0% Listing first 45 summaries

Database: a-geneseq35 1:geneseqp

Statistics: Mean 35.694; Variance 169.035; scale 0.211

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

17 18 19 20 21 22 23	112 113 114 115	_ 	Result No. 1 2
169 147 133 133 133	752 729 724 702 580	1193 1178 1149 848 810 796	Score 3808 3654
	19.7 19.1 19.0 18.4 17.9		Query Match Length 100.0 525 96.0 566 50.2 590
395 521 86 86 94	489 409 524 444 637	00000000000000000000000000000000000000	
			DB 1
W03474 W26536 W74802 W95073 W95078 W95080 W95080	W22150 W20341 W90342 W90339 W90340 W62837	W W 62829 W W 62828 W W 62830 W W 62836	ID W62831 R20181 R62832
	Peanut allergen Ara hi G. max SBP2 protein. G. max truncated SBP2 G. max SBP1 protein. G. max truncated SBP1 Hordeum vulgare antimi	integrifo integrifo integrifo integrifo antimicrok antimic ax antimic lergen Ara	Description Theobroma cacao antimi sequence encoded by 67 Gossynium hirsuinm anti-
5.11e- 2.20e- 2.61e- 2.26e- 2.26e- 2.26e- 2.26e- 2.26e-	. 49e-5 . 39e-5 . 49e-5 . 39e-4	1.886 - 92 4.116 - 92 1.60e - 88 8.89e - 62 2.06e - 53 3.46e - 57	Pred. No. 0.00e+00 0.00e+00 7.10e-157

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HIV A30S protein seque	Rice storage protein.	Protein Arp 4.		HIV G75A protein seque	HIV A30L protein seque	HIV Vpr protein sequen	Protein contg. IgA bin	Yeast transcriptional	HIV H71C protein seque	Stenocarpus sinuatus a	Precis coenia (butterf	Precis coenia patched	Human regulatory molec		Epitope tagged TBP pro	Dirofilaria immitis pa	Amino acid sequence of	Amino acid sequence of	HIV C76S protein seque	Polypeptide fragment e	Leucocytozoan protozoa
6.53e+00	4.08e+00	4.08e+00	4.08e+00	5.58e+00	4.08e+00	3.49e+00	4.08e+00	2.54e+00	2.54e+00	2.98e+00	1.15e+00	1.15e+00	1.58e+00	1.34e+00	1.58e+00	1.85e+00	1.85e+00	1.85e+00	1.58e+00	3.14e-01	3.69e-01

ALIGNMENTS

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301 KLEEILEEQRGQKRQQGQQGMFRKAKPEQIRAISQQATSPRHRGGERLAINLLSQSPVYS 360	241 TVYVSQUNQEKITLAVLALPVNSEGKIELIEFPAGNNKPESYIGAESTEVLETVENTURE 300 	DIRLAMFEANUNTFILEHHCJAEAITEVINGRGTITEVIHENRESINVORGTVVSVEAGS	DYRLAMFEANPNTFILPHHCDAEAIYFVINGKGTITFVTHENKESYNVQRGTVVSVPAGS	121 HENYHNHKKNRSEEEEGQQRNNPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGIN 180	121 HENYHNHKKNRSEEEEGQQRNNPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGIN 180	61 QCEQRCEREYKEQQRQQEEELQRQYQQCQGRCQEQQQGQREQQQCQRKCWEQYKEQERGE 120	61 QCEQRCEREYKEQQRQQEEELQRQYQQCQGRCQEQQQGQREQQQCQRKCWEQYKEQERGE 120	1 MVISKSPFIVLIFSLLLSFALLCSGVSAYGRKQYERDPRQQYEQCQRRCESEATEEREQE 60	1 MVISKSPFIVLIFSLLLSFALLCSGVSAYGRKQYERDPRQQYEQCQRRCESEATEEREQE 60	Query Match 100.0%; Score 3808; DB 1; Length 525; Best Local Similarity 100.0%; Pred. No. 0.00e+00; Matches 525; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Sequence 525 AA;		be used to control microbial infestations in plants and mammalian	The sequence is that of an antimicrobial protein which can		useful for controlling microbial infestations of plants or mammals		KC, Green JL,	(RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.		02-JUL-1998.	WO9827805-A1.		antimicrobial protein; infestation; control.	1998 (first entry)	; פרמווטמבט, הדסכפבוו, טבט	1 1 1 1 1 1 1 1 1 1

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07-JUN-1991; G00914.
11-JUN-1990; GB-013016.
(MRSC ) MARS UK LTD.
Spencer ME, Hodge R, Deakin EA, Ashton
WPI: 92-024418/03.
WPSDB; Q20377.
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Sequence encoded by 67 kD T. c
Cocoa; flavour; vicilin; seed
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The sequence is that of an antimicrobial protein which be used to control microbial infestations in plants and
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02-JUL-1998.
22-DEC-1997; AU0874.
20-DEC-1996; AU-004275.
20-DEC-1996; AU-004275.
CODER RES CENT TROPICAL PLANT PATHOLOGY.
BOWER NI, Goulter KC, Green JL, Manners JM, Marcus
WPI; 98-377279/32.
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                                                    RSRLSRGDIFVVPANFPVTFVASQNQNLRMTGFGLYNQN
                                                                                                         VPHYNSKATFVVFVTDGYGYADMACPHLSRQSQGSQSGRQDRREQEEESEEETFGEFQQV
                                                                                                                                     VPHYNSKATFYILVTEGNGYAEMVSPHLPRQSSYEEEEEEEEEEEQEQEEEERRSGQYRKI 491
                                                                                                                                                                                                                  QATSPRHRGGERLAINLLSQSPVYSNQNGRFFEACPEDFSQFQNMDVAVSAFKLNQGAIF
                                                                                                                                                                                                                                                 EATSPREKSGERFAFNLLSQTPRYSNQNGRFFEACPPEFRQLRDINVTVSALQLNQGSIF
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261; Conser
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ilarity 56.9%;
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Pred. No. 7.10e-157;
95; Mismatches 92;
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Best Local
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Bower NI, Goulter KC, Green JL, Manners JM, Marcus WPI: 98-377279/32.
N-PSDB: V42311.
                  Macadamia integrifolia antimicrobial antimicrobial protein; infestation; Macadamia integrifolia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel anti-microbial protein from e.g. Macadamia integrifo: useful for controlling microbial infestations of plants or Claim 1; Page 39-41; 96pp; English.

The sequence is that of an antimicrobial protein which can be used to control microbial infestations in plants and man animals.
                                                    W62828;
27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antimicrobial protein; infestation; c Macadamia integrifolia. Key
 Peptide
                                                                        W62828 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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W62829;
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                                                                                                                                                                                                    KAKPEQIRAISQQATSPRHRGGERLAINLLSQSPVYSNQNGRFFEACPEDFSQFQNMDVA
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                                                                                                                                                                                                                                                                                                                                                                             YQQCQGRCQEQQQGQREQQQCQRKCWEQYKEQERG-EHENYHNHKKNRSEEEEGQQRNNP
                                                                                                                                 -EDV--HYEQVKARLSKREAIVVPVGHPVVFVSSGNENLLLFAFGINAQNNHENFLAGR
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195; Conser
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          Location/Qualifiers
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Pred. No. 1.88e-92;
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IDENTIFICATION OF THE KW and K
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Best Local S
Matches 19
                          02-JUL-1998.
22-DEC-1997;
20-DEC-1996;
                                                                                                                                                                                                                                                                                                                                                                                                             T 6
W62830 standard; Protein;
W62830;
27-OCT-1998 (first entry)
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02-JUL-1998.
22-DEC-1997;
20-DEC-1996;
                                                                                                                                                                                                                                                                                                                                                     Macadamia integrifolia antimicrobial antimicrobial protein; infestation;
                                                                                                                                                                                                                                                                                               Key
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Bower NI, Goulter KC,
WPI; 98-377279/32.
N-PSDB; V42310.
      (RETR-) COOP
                                                                                                                                  WO9827805-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EETFGEFQQVKAPLSPGDVFVAPAGHAVTFFASKDQPLNAVAFGLNAQNNQRIFLAGR
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/note= "mature
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Pred. No. 4.11e-91;
125; Mismatches 139;
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   PLANT PATHOLOGY
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                                                                                                                                                    Novel anti-microbial protein from e.g. Macadamia integrifolia useful for controlling microbial infestations of plants or mammalial claim 1; Page 58-60; 96pp; English.

The sequence is that of an antimicrobial protein which can be used to control microbial infestations in plants and mammalian
                                                                                                                                                                                                                                                                   02-JUL-1998.
02-JUL-1998.
22-DEC-1997; AU0874.
20-DEC-1996; AU-004275.
(RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.
MPI; 98-377279/32.
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The sequence is that of an antimicrobial protein which can be seed to control microbial infestations in plants and man
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Zea mays antimicrobial pro
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les 193; Conse
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YFVTNGKGTITFVTHENKESYNVQRGTVVSVPAGSTVYVVSQDNQEKLTIAVLALPVNSP
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Pred. No. 1.60e-88;
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       Mismatches 149;
                                  848; DB 1;
No. 8.89e-62;
                                                                                                                                                                                                                                                                                                                  Marcus
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20-DEC-1996;
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(RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.
BOWER NI, Goulter KC, Green JL, Manners JM, Mar
WPI; 98-377279/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Page 63-65; 96pp; English.

The sequence is that of an antimicrobial protein which be used to control microbial infestations in plants and
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                                                                                                    FGSNR-FETLFKNOYGRIRVLORFNORSPOLONLRDYRILEFNSKPNTLLLPNHADADYL 256
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                                                                                                                                                                                                                                                                                                        PT Peanut allergens Ara hI and Ara hII - used for vaccination and in PT two-site monoclonal antibody based ELISA PS Claim 31, Page 169; 354pp; English.

This polypeptide comprises major peanut allergen Ara hI (W22149).

Its sequence was deduced from cDNA clone P17 (T76612), isolated from peanut seed cDNA using a primer (see T76616) based on an isolated Ara hI peptide (see W24206). The sequence shows isolated Ara hI peptide (see W24206). The sequence shows is significant homology with the vicilin family of seed storage proteins of other legumes. The allergen is recognised by serum is greater and ara hI (see W24164) can be used to raise monoclonal antibodies which are used in a specific two-site who ELISA for the detection of ara hI (see W24164) can be used to raise monoclonal antibodies which are used in a specific two-site binding Ara hI antigen epitopes (see W24165-87) may be used in concines to protect against allergic reactions to peanut allergens, on anabylactic shock.
                                                                                                                             Query Match
Best Local S
Matches 15
                                                                                                                                                                                                                                                                                       e.g. anar
Sequence
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Key Location/Qualifiers
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W22149;
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23-SEP-1996; U15222.
04-MAR-1996; US-610424.
29-DEC-1995; US-009455
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Bannon GA, Burks AW, Cockrell
WPI; 97-363453/33.
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Peanut allergen Ara hI.
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The sequence is that of an antimicrobial protein which
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22-DEC-1997; AU0874.
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(RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY BOWER NI, Goulter KC, Green JL, Manners JM, Ma: WPI; 98-377279/32.
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                                                                                                                                                                                                                                                                                                                                                                                                   93 DYDDDRRQPRREEGGRWGPAEPREREEEDWRQPREDWRRPSHQQPRKIRPEGREGEQEW 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69
DNQEKLTIAVLALPVNSPGKYELFFPAGNNKPESYYGAFSYEVLETVFNTQ-RE--K--L
                                                                                                                                               EARPNTLVLPKHADADNILVIQQGQATVTVANGNNRKSFNLDEGHALRIPSGFISYILNR 271
                                                                                                                                                                                                                                                                GTPGSEVREETSRNNPFYFPSRR-FSTRYGNQNGRIRVLQRFDQRSKQFQNLQNHRIVQI 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AHPVAINASSE--LHLLGFGINAENNHRIFLAG
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                                                        HDNQNLRVAKISMPVNTPGQFEDFFPASSRDQSSYLQGFSRNTLEAAFNAEFNEIRRVLL 331
                                                                                                              EANPNTFILPHHCDAEAIYFVTNGKGTITFVTHENKESYNVQRGTVVSVPAGSTVYVVSQ
                                                                                                                                                                                                                                                                                                                                          EYKEQQRQQEEELQRQYQQCQGRCQEQQQGQREQQQCQRKCWEQYKEQERGE-HENYHNH 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GHAVTFFASKDQPLNAVAFGLNAQNNQRIFLAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LRDGEPDLSNNFGRLFEVKPDKKNPQLQDLDMMLTCVEIKEGALMLPHFNSKAMVIVVVN
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                                                                                                                                                                                                                               KKNRSEEEEGQQRNNPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGINDYRLAMF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            l Similarity
153; Conse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                614 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 796; DB 1;
Pred. No. 3.46e-57
126; Mismatches 15
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RESULTANCE OF THE PROPERTY OF 
                                                                                                                                                                                                                                                                                                                                                                                  CC Its sequence was deduced from cDNA clone P41b (T76613), isolated cc from peanut seed cDNA using a primer (see T76616) based on an CC isolated Ara hI peptide (see W24206). The sequence shows consistivated homology with the vicilin family of seed storage cc proteins of other legumes. The allergen is recognised by serum CC IgE from a large proportion of individuals with peanut cc hypersensitivity. Ara hI and Ara hII (see W24164) can be used to craise monoclonal antibodies which are used in a specific two-site cc waccines to protect against allergic reactions to peanut allergens, ce g. anaphylactic shock.
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04-MAR-1996;
29-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peanut allergens Ara hI and Ara hII - used for vaccination and
two-site monoclonal antibody based ELISA
Claim 31; Page 172; 354pp; English.
This polypeptide comprises major peanut allergen Ara hI (W22149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 97-363453/33.
N-PSDB; T76613.
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Peanut allergen Ara hI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          w22150;
29-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  W22150 standard; Protein; 626
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-MAR-1996; US-610424.
29-DEC-1995; US-009455.
(UYAR-) UNIV ARKANSAS.
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218
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EAKPNTLVLPKHADADNILVIQQGQATVTVANGNNRKSFNLDEGHALRIPSGFISYILNR 277
                                                    KKNRSEEEEGQQRNNPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGINDYRLAMF
                                                                                    GTPGSHVREETSRNNPFYFPSRR-FSTRYGNQNGRIRVLQRFDQRSRQFQNLQNHRIVQI 217
                                                                                                                                                                                                                  DYDDDRROPRREEGGRWGPAGPREREREEDWRQPREDWRRPSHQQPRKIRPEGREGEQEW 158
                                                                                                                                                             EYKEQQRQQEEELQRQYQQCQGRCQEQQQGQREQQQCQRKCWEQYKEQERGE-HENYHNH 127
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                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Burks AW, Cockrell G,
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                                                                                                                                                                                                                                                                                                         Score 752; DB 1;
Pred. No. 2.59e-53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                allergen; allergy; hypersensitivity;
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                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                                      Length 626;
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EEEEGQQRNNPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGINDYRLAMFEANPN

EQHEEEEDENPYVFEEDKDFSTRVETEGGSIRVLKKFTEKSKLLQGIENFRLAILEARAH 147

Qy 밁

KETEVEEDPELVTCKHQCQQQRQYTESDKRTCLQQC-DSMKQEREKQVEEETREKEEEEHQ 87 :: | | : | : | : | : : :: :: ::

RQQEEELQRQYQQCQGRCQEQQQ-GQREQQQCQRKCWEQYK-EQERGEHENYHNHKKNRS

132

192

Local Similarity

Conservative

Mismatches 133;

Indels

28;

Gaps

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IRESULT

AC W9

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Best Local S
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                                                                                                                                                                           seeds might be desirable where the vegetative material of the plant is harvested. The SBP regulatory regions confer specific or enhanced expression in developing seeds and so may be used to express any
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                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seed; carbohydrate content; soybean.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G. max SBP2
                                                                                                                                             transgene in developing seeds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uptake activity in developing seeds Claim 13b; Page 37-38; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SBP1; sucrose binding protein; SBP2; sucrose uptake; transgenic plant;
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(UNIW ) UNIV WASHINGTON
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                                                                                                             489 AA;
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19.1%;
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Score 729; DB 1;
Pred. No. 2.73e-51;
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(UNIW ) UNIV WASHINGTON STATE RES FOUND.
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21-MAY-1998; U10465
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max truncated SBP2 protein.
pl; sucrose binding protein; SBP2; sucrose uptake; transgenic plant;
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                                                                 EQHEEEEDENPYVFEEDKDFSTRVETEGGSIRVLKKFTEKSKLLQGIENFRLAILEARAH
                                                                                                                                   RQQEEELQRQYQQCQGRCQEQQQ-GQREQQQCQRKCWEQYK-EQERGEHENYHNHKKNRS 132
                                                                                                                                                                                                        KETEVEEDPELVTCKHQCQQQRQYTESDKRTCLQQC-DSMKQEREKQVEEETREKEEEHQ 87
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEDFSQ-FQNMDVAVSAFKLNQGAIFVPHYNSKATFVVFVTDGYGYAQMACPHLSRQSQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PDDEKSWLQRLNLMLTFTNITQRSMSTIHYNSHATKIALVMDGRGHLQISCPHMS--SR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KRQQGQQGMFRKAKPEQIRAISQQATSPRHR-GGE-RLAINLLSQSPVYSNQNGRFFEAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TFILPHHCDAEAIYFVTNGKGTITFVTHENKESYNVQRGTVVSVPAGSTVYVVSQDNQEK 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQSGRQDRREQEEESEEETFGEFQQVKAPLSPGDVFVAPAGHAVTFFASKDQPLNAVAFG
                                                                                                                                                                                                                                                                                 118;
                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                     in developing seeds.
                                                                                                                                                                                                                                                                          19.0%;
larity 32.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       503
                                                                                                                                                                                                                                                                          Score 724; DB 1; Le Pred. No. 7.49e-51; 114; Mismatches 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or decreased sucrose
                                                                                                                                                                                                                                                                                                                                           Length 409
                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                             14;
                                                                                                                                                                                                                                                                          Gaps
192
                                                                     147
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Qy 밁

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153 LEARAHTFVSPRHFDSEVVFFNIKGRAVLGLVSESETEKITLEPGDMIHIPAGTPLYIVN

NRSEEEEGQQ--RN-NPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGINDYRLAM EREEEQQEQHEEQDENPYIFEEDKDFETRVETEGGRIRVLKKFTEKSKLLQGIENFRLAI 152

186

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                        This sequence represents a novel sucrose binding protein, SBP1 isolated CC from Glycine max. This protein is used in a method resulting in the production of a modified plant sucrose binding protein (SBP) which has a CC modified amino acid sequence compared to a corresponding wild-type SBP, CC and where expression of the modified SBP in a yeast assay system confers cenhanced sucrose uptake compared to the corresponding wild-type SBP. CC which have modified sucrose uptake activity, particularly in developing CC which have modified sucrose uptake activity in developing seeds. Enhanced sucrose uptake activity in developing seeds may be CC desirable where it is an advantage to increase the carbohydrate content CC of the seed (e.g. where the seed is the primary plant material harvested, Seeds might be desirable where the vegetative material of the plant is compared to the seed of the plant is compared to the plant
                                                                                                         Matches
                                                                                                                                Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-NOV-1998;
21-MAY-1998;
22-MAY-1997;
                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       uptake activity in developing Disclosure; Page 34-36; 58pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UNIW ) UNIV WASHINGTON STATE RES FOUND Chao WS, Grimes HD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Glycine max. WO9853086-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seed; carbohydrate content; soybean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G. max SBP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W90339 standard; protein; 524 AA. W90339;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transgenic plants which can have enhanced or decreased sucrose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New modified plant sucrose binding proteins - used to develop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SBP1; sucrose binding protein; SBP2; sucrose uptake; transgenic plant;
                                                                                                                                                                                                                                          transgene in developing seeds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-MAY-1999
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                                                                                            18.4%;
Local Similarity 33.2%;
les 147; Conservation
  79
                                                  34 EEEDPELVTCKHQCQQQQQYTEGDKRVCLQSC-DRYHRMKQEREKQIQEETREKKEEESR 92
EELQRQYQQCQGRCQEQQQ-GQREQQQCQRKCWEQY-K-EQERG-E-HENYHNHK----K 129
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99-070155/06.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEDFSQ-FQNMDVAVSAFKLNQGAIFVPHYNSKATFVVFVTDGYGYAQMACPHLSRQSQG
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                                                                                                                                                                                                              524 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U10465.
US-047568.
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                                                                                                       Score 702; DB 1; Louis Pred. No. 6.39e-49; 136; Mismatches 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seeds
                                                                                                                                                         Length 524;
                                                                                                         Indels 40;
                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UNIW ) UNIV WASHINGTON STATE RES FOUND Chao WS, Grimes HD; WPI; 99-070155/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycine max.
WO9853086-A1.
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SBP1; sucrose binding protein; SBP2; sucrose uptake; transgenic plant; seed; carbohydrate content; soybean.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T 15.
W90340 standard; protein; 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-NOV-1998.
21-MAY-1998; U10465.
22-MAY-1997; US-047568.
                                                                                   130
153 LEARAHTFVSPRHFDSEVVFFNIKGRAVLGLVSESETEKITLEPGDMIHIPAGTPLYIVN 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  273
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                                                                                                                                                                                                                                     79
                                                                                                                                                                                                                                                                                                            34
                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
mes 126; Conser
                                                                                                                                                                                                                                                                             EEEDPELVTCKHQCQQQQQYTEGDKRVCLQSC-DRYHRMKQEREKQIQEETREKKEEESR 92
                                                                               NRSEEEEGQQ--RN-NPYYFPKRRSFQTRFRDEEGNFKILQRFAENSPPLKGINDYRLAM 186
                                                                                                                      EREEEQQEQHEEQDENPYIFEEDKDFETRVETEGGRIRVLKKFTEKSKLLQGIENFRLAI 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VFD-Q--QN--EG--SIFRISR-EQVRALAPTKKSSWWPFGGESKPQFNIFSKRPTISNG
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                                                                                                                                                                                                                                 EELQRQYQQCQGRCQEQQQ-GQREQQQCQRKCWEQY-K-EQERG-E-HENYHNHK----K 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QPLNAVAFGLNAQNNQRIFLAGR 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENLLMICFEVNARDNKKFTFAGK 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHMS--SRSSHS-KHDKS-----S---P-S-YHRISSDLKPGMVFVVPPGHPFVTIASNK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NGRFFEACPEDFSQ--FQNMDVAVSAFKLNQGAIFVPHYNSKATFVVFVTDGYGYAQMAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YGRLTEVGPDDDEKSWLQRLNLMLTFTNITQRSMSTIHYNSHATKIALVIDGRGHLQISC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PHLSRQSQGSQSGRQDRREQEEESEEETFGEFQQVKAPLSPGDVFVAPAGHAVTFFASKD 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RDENDKLFLAMLHIPVSVSTPGKFEEFFAPGGRDPESVLSAFSWNVLQAALQTPKGKLEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  444 AA;
                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
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                                                                                                                                                                                                                                                                                                                                                                                        114; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 680; DB 1;
Pred. No. 5.41e-47;
                                                                                                                                                                                                                                                                                                                                                                                        104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 444;
                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                        28;
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                                                                                                                  PHMSSRSSHSKH 396
                                       NGRFFEACPEDESQ--FQNMDVAVSAFKLNQGAIFVPHYNSKATFVVFVTDGYGYAQMAC
                                                                                               VFD-Q--QN--EG--SIFRISR-EQVRALAPTKKSSWWPFGGESKPQFNIFSKRPTISNG
PHLS-RQSQGSQ 431
                                                                             ILEEQRGQKRQQGQQGMFRKAKPEQIRAISQQATSPRHR-GGE-RLAINLLSQSPVYSNQ
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Search completed: Sat May 13 08:27:24 2000 Job time: 23 secs.